REFRIGERATOR MANUFACTURER

Turbo air

Turbo Air Speed up the Pace of Innovation

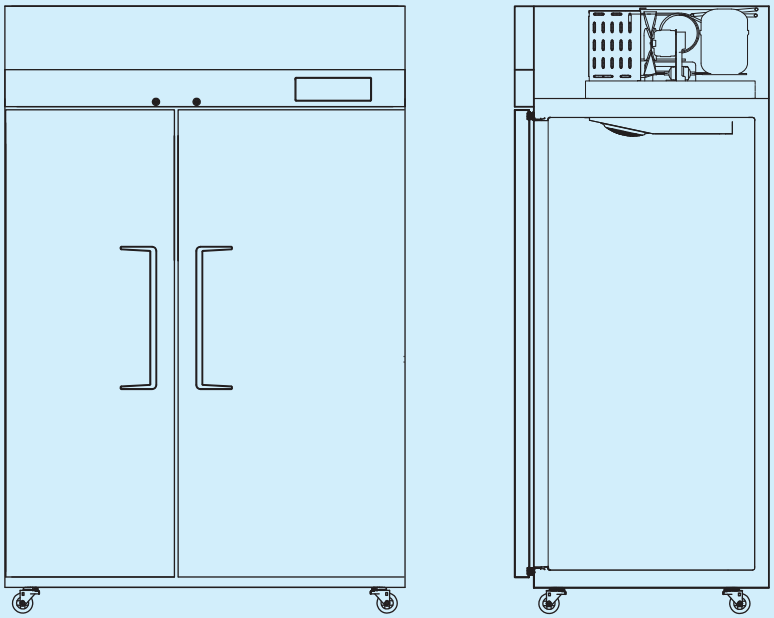
CAUTION!
PLEASE KEEP POWER
SWITCH ON BEFORE
OPERATING THIS EQUIPMENT

Commercial Refrigerator & Freezer Service Manual

Please read this manual completely before attempting to install or operate this equipment!

J Series
SOLID DOOR

JRF-45



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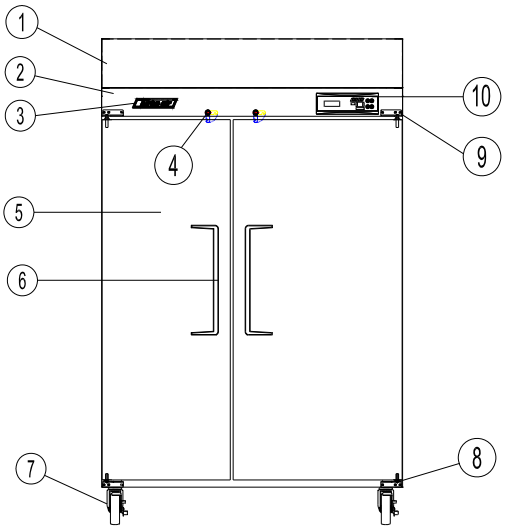
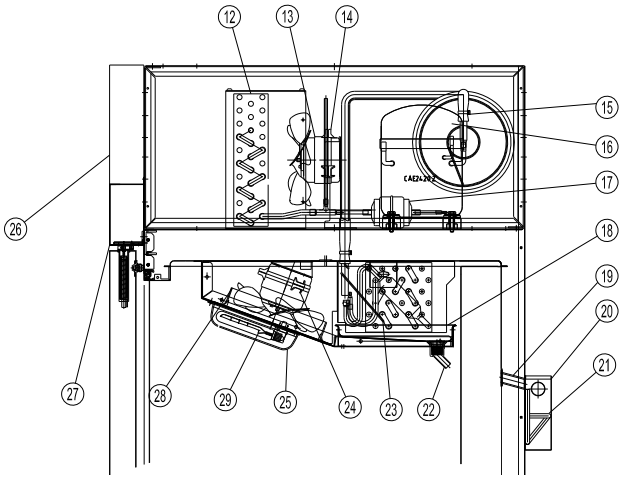
1. FEATURE CHART

1.1. FRONT VIEW/PLAN VIEW



1 TOP GRILLE(T)
2 TOP GRILLE(B)
3 MASCOT
4 KEY
5 ASS'Y DOOR(L)
6 DOOR HANDLE
7 CASTER
8 BOTTOM HINGE(R)
9 TOP HINGE(R)
10 PANEL FRONT PCB

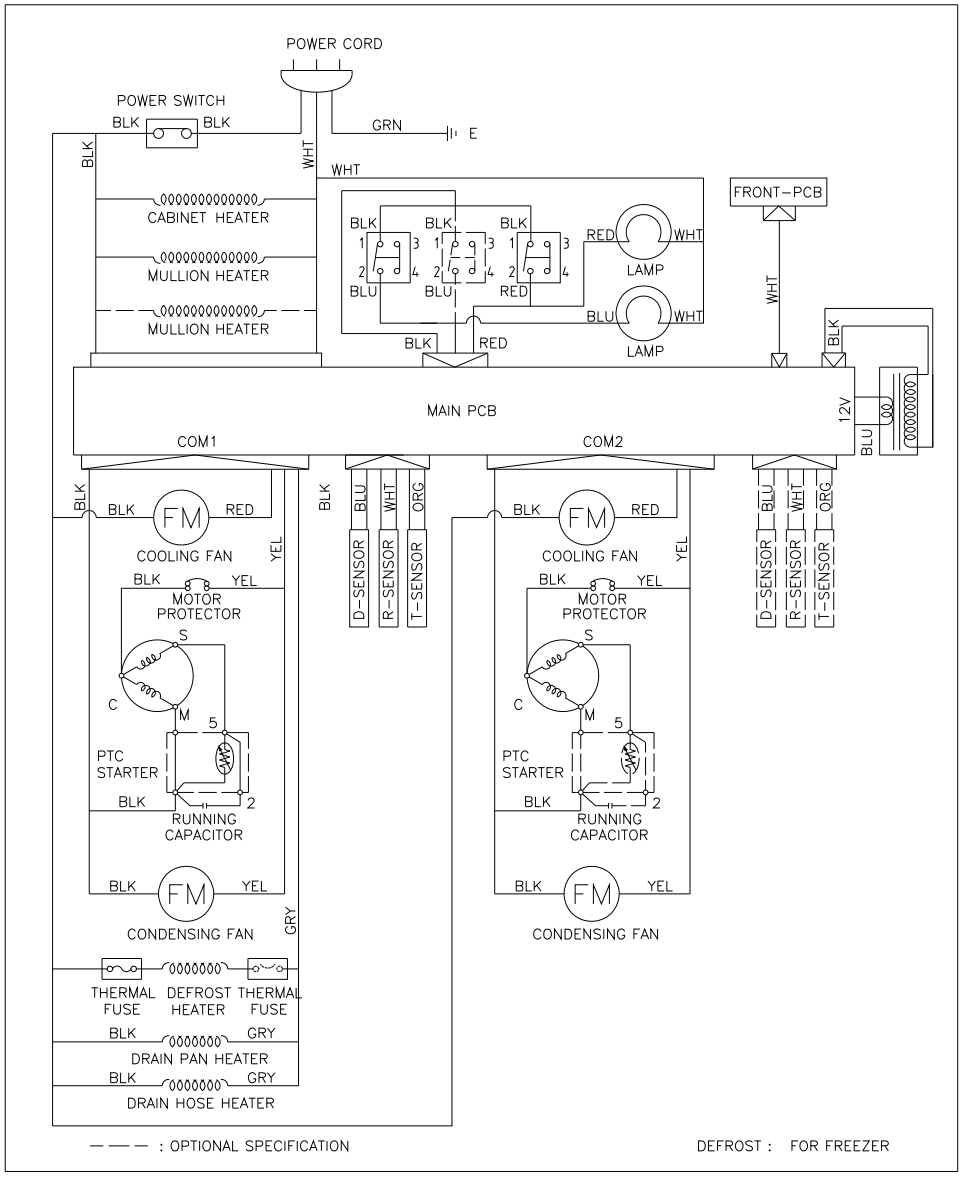


12 CONDENSER
13 CONDENSER MOTOR
14 MOTOR BRACKET
15 SUCTION PIPE
16. COMPRESSER
17. DRYER
18 DRAIN PAN
19. DRAIN GUIDE
20 DRAIN CASE
21 DRAIN PIPE
22 DRAIN CONNECTOR
23 EVAPORATOR
24EVAPORATOR MOTOR
25 LAMP COVER
26 TOP GRILE T
27TOP GRILE B

2. WIRING DIAGRAMS

2-1.

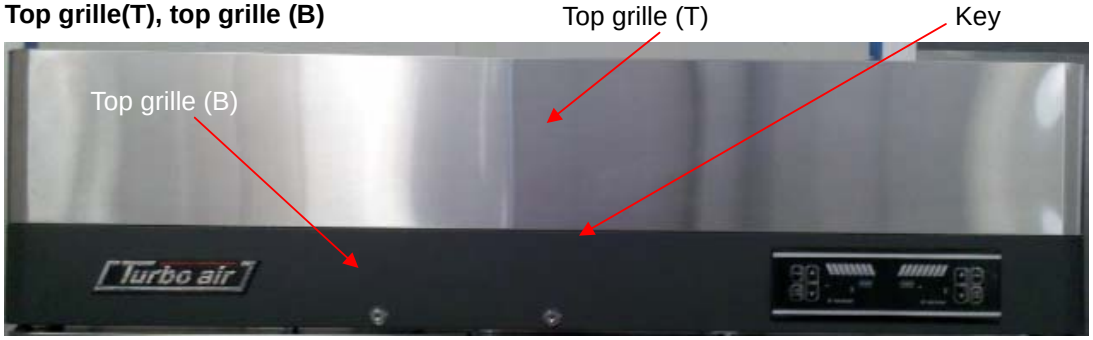
WIRING DIGRAM



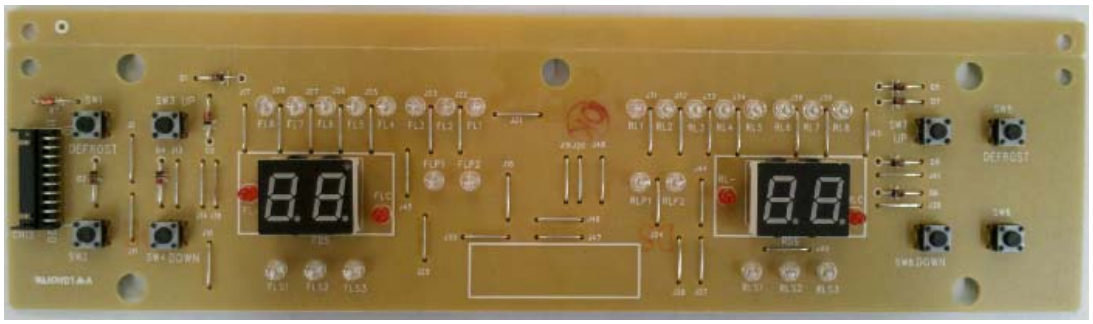
3.PART DETAIL

3-1. TOP GRILLE

Top grille(T), top grille (B)

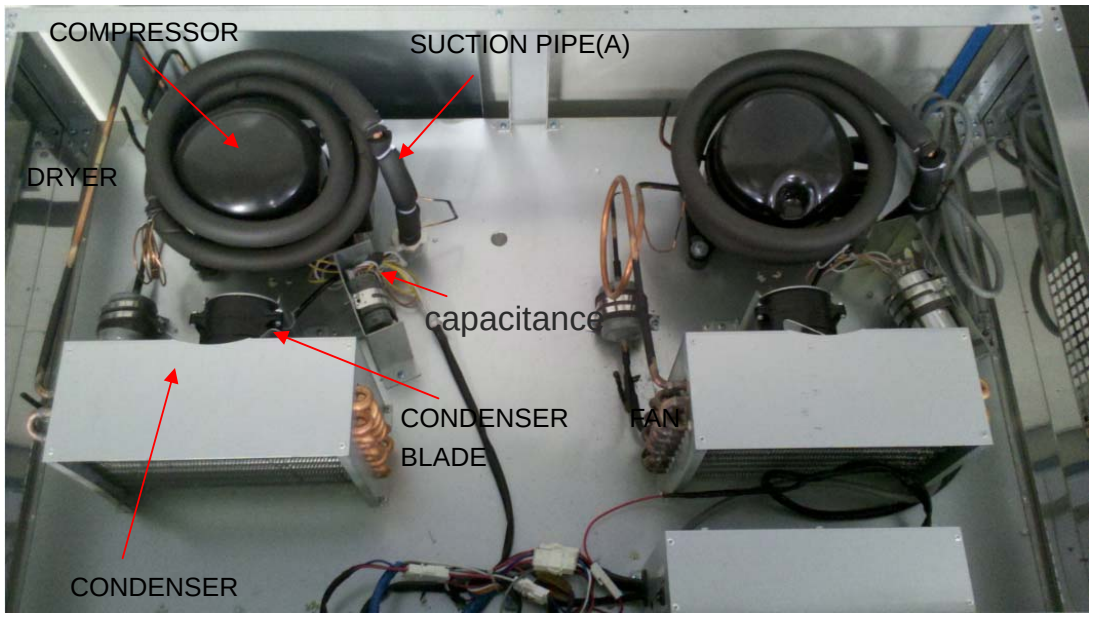


Front pcb



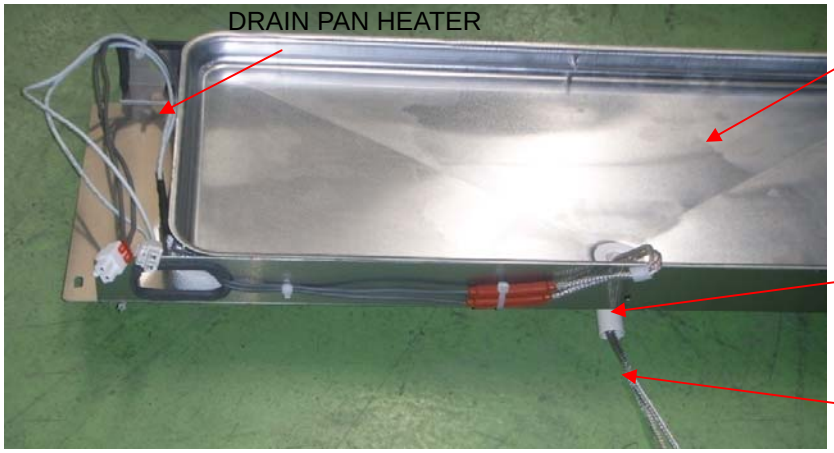
3-2. Refrigeration Compartment

Cycle Assembly

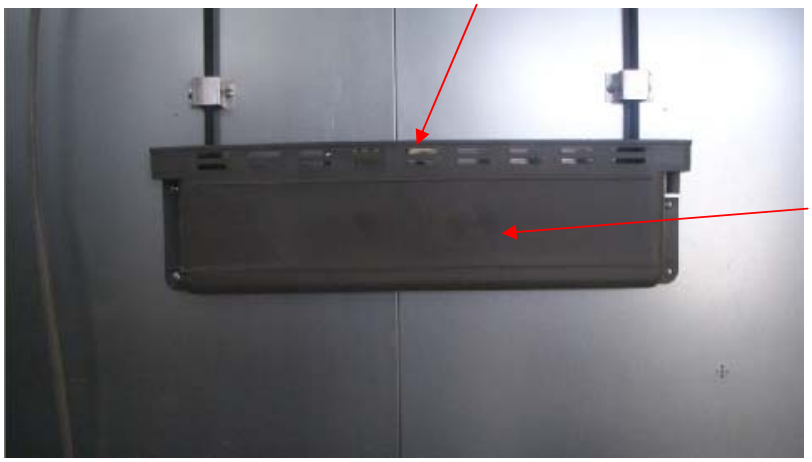


PART DETAIL

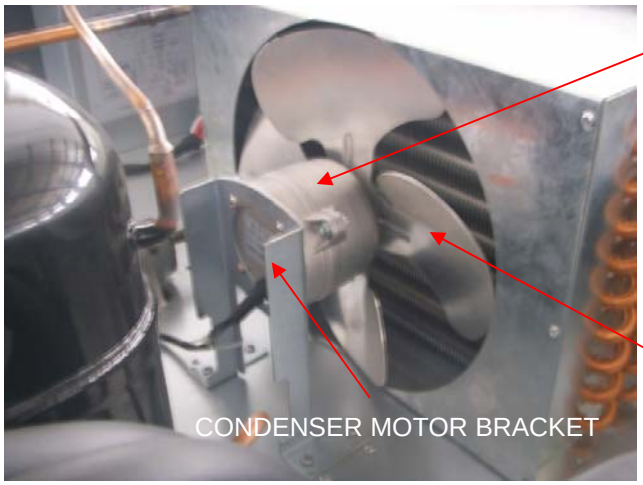
Drain Pan Assembly



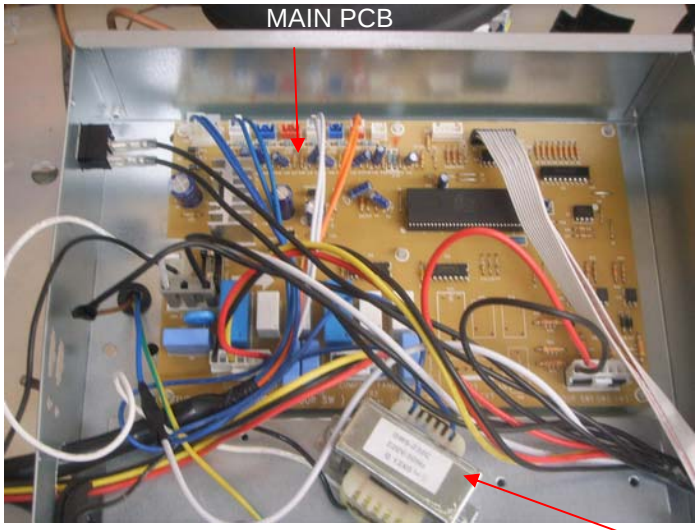
Drain Case Assembly



Condenser Fan Motor Assembly

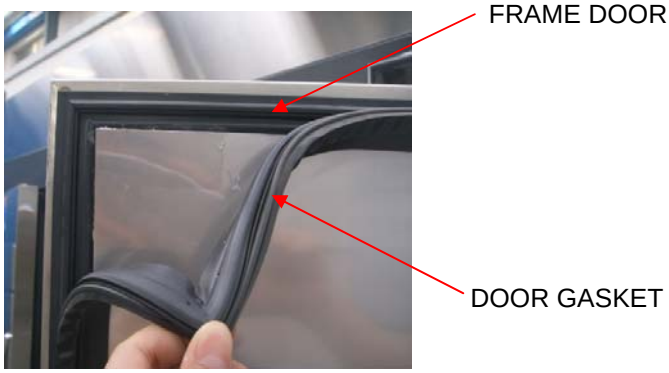


3-3. CONTROL BOX



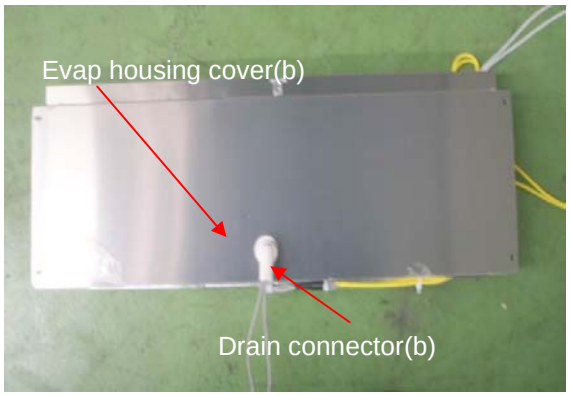
3-4. Door

Gesket



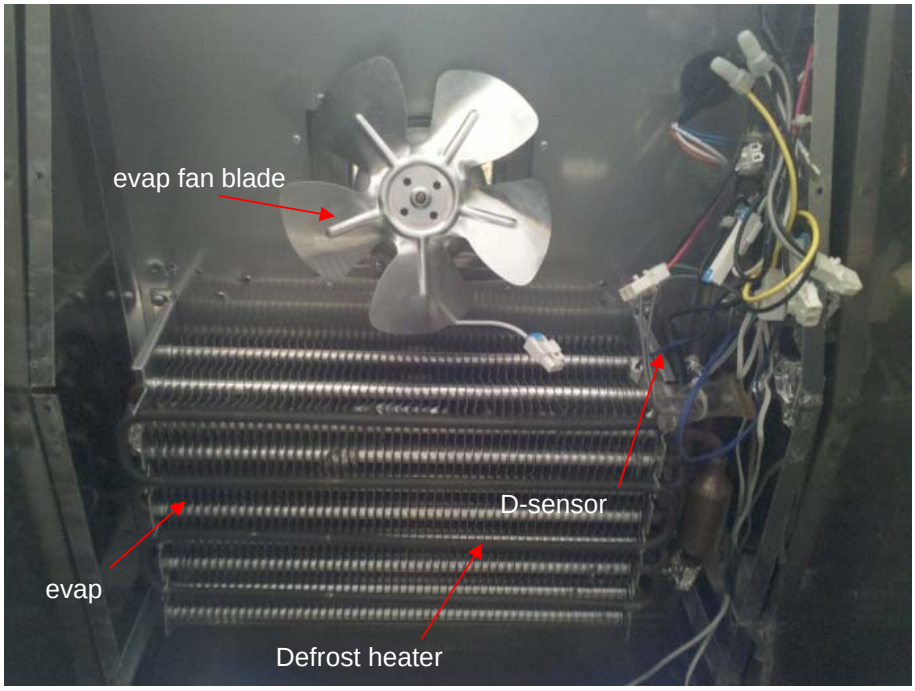
3-5.EVAP HOUSING

Freezer Duct & Refrigerator Duct

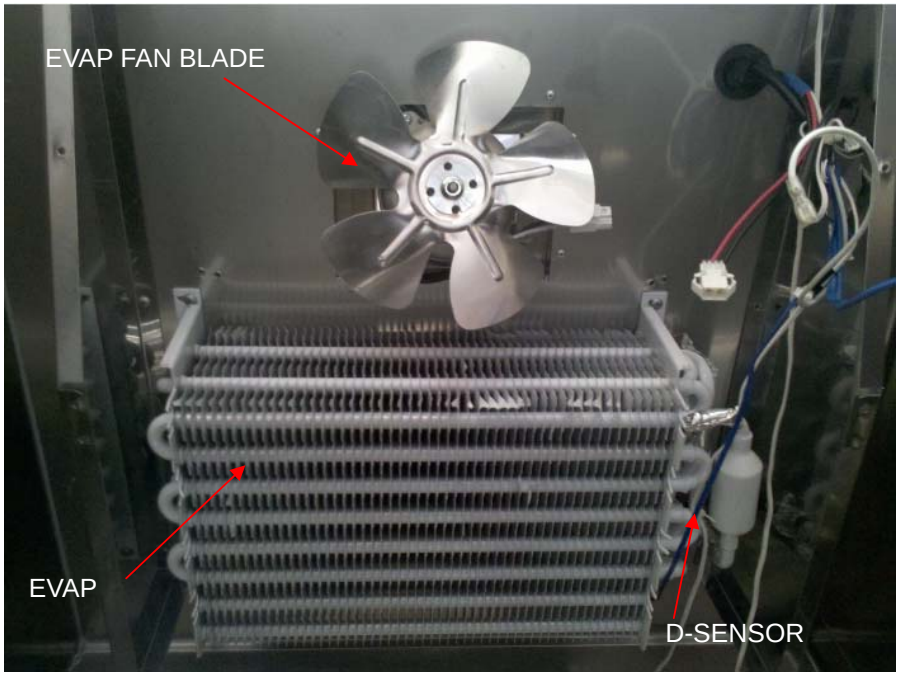


PART DETAIL

Freezer EVAP.,Fan



Refrigerator evap. Fan.



MAIN COMPONENTS

4-1. COMPRESSOR

model	JRF-45	
refrigerant	R134a	R134a
Voltage	115v	115v
Comp. model	HBL27YE-1	SK1A1C-L2W
Part code	M369700100	M609700100
Starting Type	220v/100 μ F	125v/125 μ F

4-2. COMPRESSOR RELAY

Model	JRF-45	
Voltage	115v/60HZ	
Relay Model	783RHBZZ-52	795TFBZZ-53

4-3. CONDENSER DRYER

Model	JRF-45
Refrigerant	R-134a
Spec.	C-052-S
Part code	M726800100

4-4. CAPACITOR

Model	JRF-45	
Voltage	115V/60HZ	
Running	15V/60HZ	
Part code		
Starting	200V/100uf	200V/10 ☒
Part code		

4-5. EVA FAN MOTOR

Model	JRF-45
Voltage	120V/60Hz
Motor Model.	IS4420ODWSN-2A
Part code	P8F6600100

4-6. CONDENSOR FAN MOTOR

MODEL	JRF-45
Voltage	115V,60Hz
Motor Model	IS4420DWSG-1
Part code	G8F6600100

4-7. EVA DEFROST HEATER

Model	JRF-45
Voltage	115V
Spec	280W
Part code	K2D5301001

4-8. LAMP

Model	JRF-45
Voltage	120V/40W
Spec.	
Part code	P996300100

4-9. TRANSFORMER

Model	JRF-45
Voltage	115V/60Hz
Spec.	
Part code	P996000100

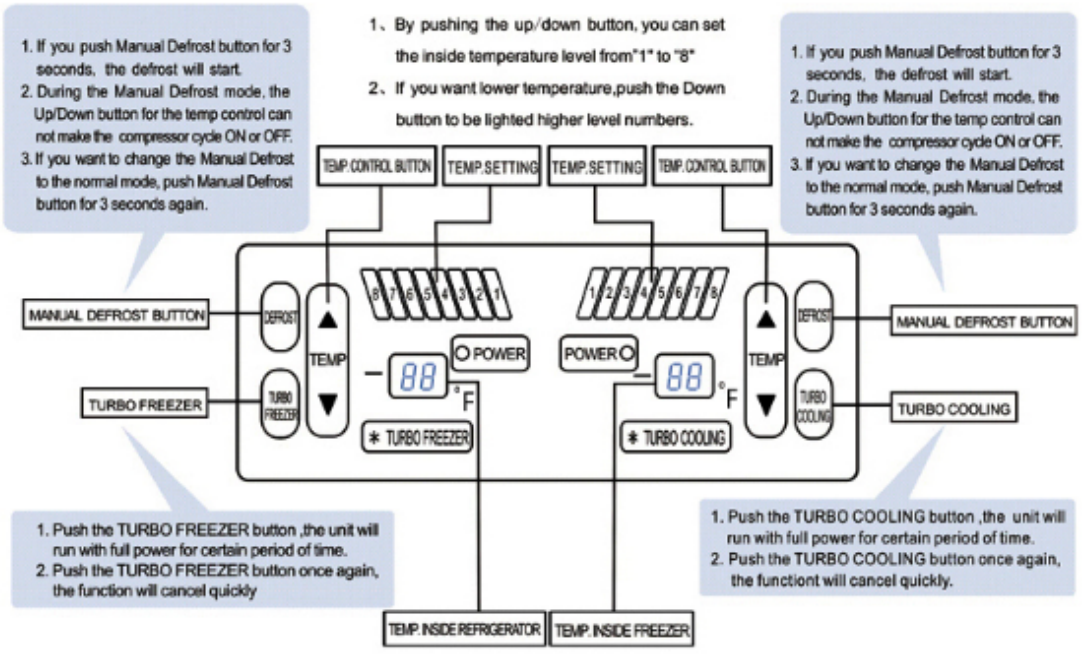
4-10.MAIN PCB

Model	JRF-45
Voltage	115v
Spec..	
Part code	K3F5401300

5. ELECTRONIC CONTROLLER INSTRUTION

5-1. HOW TO USE THE PANEL

1.Plug in and turn on the power switch located on the right side of top grille.
The Display panel will be lighted and make a beep sound. The compressor will begin to run.
2. The default temperature setting is No."4".
3. The compressor is automatically cycled by the electronic controller(PCB).
4. The Defrost cycle is automatically controlled by the PCB.
5.Set level toward"1" for higher temperature and "8" for lower temperatures.
6.Good Air Flow in freezer/refrigerator unit is critical.
Be careful to load product so that it neither presses against the back wall, nor reaches within four inches from the evaporator compartment.



1、It displays inside temperature.

2、When the inside temperature is lower than -49°F the panel will display 'LO'.

LO

and higher than +64.4°F, the panel will display 'HI'.

HI

K-series part list

Part Code	Part Name	D	H	L	Material	JRF-45-2
K3F1901100	AIR DUCT	0.4	576.5	547.4	GI	1
K3F2900800	BOTTOM HINGE(L)			0		1
K3F2900900	BOTTOM HINGE(R)			0		1
T5R5300102	CABINET HEATER				SILICON&편조	1
K3F1900500	CABINET SIDE Fixture (M)	2	264.2	82.1	GI	2
K2F1900300	CABINET SIDE Fixture (T)	2	1209	54	GI	2
K3F1101700	CABINET SIDE PANEL (T)(L)	0.6	852.4	338	AL	1
K3F1100901	CABINET SIDE PANEL (T)(R)	0.6	852.4	338	AL	1
K3F6500400	CASTER			0		2
K3F6500200	CASTER				-	2
M369700100	COMPRESSOR		0		HBL27YE-1	1
M609700100	COMPRESSOR		0		SK1A1C-L2W	1
M724100100	CONDENSER MOTOR BRACKET		0		GI	2
K3F2000300	MOTOR FIXTURE BRACKET				SUS304-2B	2
M721200200	CORD CLIP				-	10
K3F5102001	D SENSOR				-	2
G8F9900101	DEFROST FIXTURE SPRING				SUS304	12
K2D5301001	DEFROST HEATER				SUS304	1
K3F1900400	DISPLAY PCB BACK COVER	0.4	260	126.4	GI	1
K3D7800500	DISPLAY PCB FILM					1
G8F0501800	DOOR BUSHING				NY66	2
T8F0500700	DOOR BUSHING				NY66	2
K3F1501500	DOOR FIXTURE BRACKET	2	150.2	70	GI	2
K2D3300200	DOOR GASKET		688	1441.5	PVC 난연	1
K2D3103000	DOOR GASKET		518	1445	PVC 난연	1
G993200104	DOOR HANDLE				ABS	2
K2D1500800	DOOR INNER PANEL	0.6	666.3	1430.8	AL	1
K2D1500700	DOOR INNER PANEL	0.6	486.3	1430.8	AL	1
K2D1500200	DOOR PANEL (R)	0.6	1577	808.4	SUS439-#4	1
K2D1500100	DOOR PANEL (L)	0.6	833.4	628.43	SUS439-#4	1
K3F1501400	DOOR SPACE	0.6	30	80	SUS304-#4	4
B1R0500600	DOOR STOPER (B)		0		SUS304-2B	2
B1R0500300	DOOR STOPPER BRACKET	0	0	0	PO	2
G8F3200601	DRAIN CONNECTOR A				NY66	2
G8F3200700	DRAIN CONNECTOR B				NY66	2
K3F7300100	DRAIN GUDIE PAD				F-PS	2
K3F2500100	DRAIN GUIDE				AL	2
K3F2500300	DRAIN HOSE CAP			0		2
K3F1901200	DRAIN HOSE GUIDE	0.4	165.8	370	GI	1
T8F5300800	DRAIN HOSE HEATER		0			1

K3F8400500	DRAIN HOSE TIE	0		0		4
K3F5301100	DRAIN PAN HEATER				AL & SILICON	1
K2R4200301	DRAIN PIPE	0		0	CU	1
M724400601	DRYER DISCHARGE				CU	4
G2F4201000	DRYER DISCHARGE PIPE		0		CU	4
G8F1400200	DRYER FIXTURE BEND	0.5	24	180	SUS439-2B	2
K3F4400203	EVAP COIL				CU	1
K3F4400402	EVAP COIL				CU	1
P8F2700400	FAN BLADE				AL	2
M722700400	FAN BLADE				AL	2
K3F4500201	FIN-CONDENSER				CU	2
K3D5401100	FRONT PCB (DUAL)					1
K3D3200100	FRONT PCB CASE (DUAL)					1
K3F5101900	HARNESS DISPLAY PCB					1
K2D5100600	HARNESS GRILLE DOOR SWITCH			0		1
K2D5100800	HARNESS MAIN	0		0		1
K2D5100900	HARNESS MAIN(B)			0		1
P998200100	KEY				-	2
G8F3200800	KEY GUIDE				ABS	2
G8F6300100	LAMP	0	0	0		2
G8F3200203	LAMP COVER				PC	2
P996400100	LAMP SOCKET	0	0	0		2
K3F3103300	LINER FRAME COVER(L)(R)			0		2
K2F3100300	LINER FRAME COVER(T)(U)			0		2
K3F5401300	MAIN PCB					1
G8F9200300	MAIN PCB FIXTURE				NY66	7
K3F3200100	MASCOT	0			ABS	1
P8F6600100	MOTOR	0	0	0		2
G8F6600100	MOTOR	0	0	0		2
K3F2100101	MULLION FIXTURE BRACKET		66	34.04	SUS304-#4	1
K3F2100800	MULLION FIXTURE BRACKET(UPP)	1.5	60	52.5	SUS304	1
K3F3103900	MULLION FRAME COVER(V)			0		2
T8R5300100	MULLION HEATER (VER)				SILICON&편조	1
K2F1200301	MULLION OUT COVER	0.6	1402	74.8	SUS439-#4	1
K3F4200101	PIPE(COMP-CON)				CU	1
K3F4201100	PIPE(COMP-DRAIN)			0	CU	1
K3F4201300	PIPE(CON-DRAIN)			0	CU	1
M604400600	PIPE(DRYER-CAPI TUBE)				CU	2
P5R5800100	POWER CORD	0	0			1
30281Q0100	POWER SWITCH					1
K3F5102101	RF SENSOR	0				2
K3F8300200	SCREW	0				16

K3F9900100	SCREW	0				8
P998300200	SCREW					2
P992000301	SENSOR GUARD				AL	2
K2D9000101	SHELF	0			SWRM&백색 COATING	3
K2D9000201	SHELF	0			SWRM&백색 COATING	3
P993200800	SHELF CLIP				PA-66	32
K3F2700103	SHELF STANDARD	0		0		8
K3F8400100	SPRING BAR	0	1418		SWRM	2
K3F3101600	SPRING BAR GUIDE PIPE	0	1385		PVC	2
B1R0500400	STOP SPRING PLATE (L)				SUS304-2B	1
B1R0501100	STOP SPRING PLATE (R)				SUS304-2B	1
K3F4600103	SUCTION PIPE (A)				CU	1
K3F4600403	SUCTION PIPE (A)				CU	1
K3F4600600	SUCTION PIPE (B)			0	CU	2
T8F6200200	THERMAL FUSE				-	1
K2D1600100	TOP GRILLE (B)	0.8	1420	238.85	GI	1
K2F1600200	TOP GRILLE (T)	0.6	1425	326.73	SUS439-#4	1
K3F2100400	TOP GRILLE (T) FIXTURE	0.6	43	43	SUS439-#4	2
K3F2901000	TOP HINGE(L)			0		1
K3F2901100	TOP HINGE(R)			0		1
P996000100	TRANS FORMER					1
K3F5101800	T-SERSOR			0		2

7. REPLACEMENT OF MAIN COMPONENTS

7-1. TOP GRILLE PART

A. Unscrew the screw located on both side of top grille (t) with the top grille (t) fixture。

B. Hold up the top grille (T).

C. Unscrew the screw located on both side of top grille (B).

D. Unscrew the screw located on the cabinet top cover.

E. Pull out the harness display pcb and harness grille door s/w located on back of top grille (B).

You can replace the door switch, mascot, key, front pcb and front pcb case, etc.

7-2. REPLACE DOOR

7-2-1. A. Disassemble top grille (T) and top grille (B) as described section 7-1.

B. Unscrew the top hinge (R).

C. Lift the door (R) and pull it out.

°

D. Replace the door with the new one.

E. Screw the top hinge (L). (this process is opposite to disassemble them.)

F. Do just like above instructions in replacing the door (L).

REPLACEMENT OF MAIN COMPONENTS

7-3. REFRIGERATION COMPARTMENT'S PART

- Duct and Lamp
- T-sensor and D-sensor
- Evaporator coil and F-sensor
- Defrost heater (freezer only)
- Evaporator fan motor and fan blade

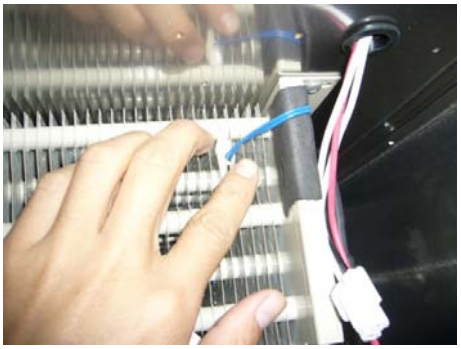
7-3-1. REPLACE DUCT AND LAMP

A.Disassemble the Duct.

7-3-2. REPLACE T SENSOR AND D SENSOR (T-SENSOR IS WHITE COLOR, F-SENSOR IS ORANGE AND D-SENSOR IS BLUE)

A.Disassemble the Duct as in 7-3-1

B. Disconnect the connector and pull out the D-sensor from the evap. replace the new one.



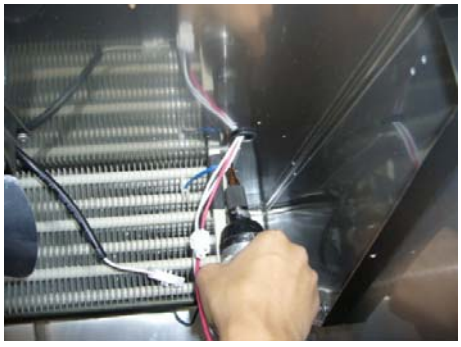
(D-SENSOR IS BLUE)

C. Take off the T-sensor from the evap. replace the new one.

(T-SENSOR IS WHITE COLOR)

7-3-3. REPLACE THE EVAPORATOR COIL AND F-SENSER

A. Welding off the connection suction pipe(A) and (B).
B. Unscrew the screw located on back side of evap. housing.



C. Take off the evaporator.

D. Disconnect the connector and Unscrew the screws located on sensor cover and pull out the F-sensor from the evap.sensor guide, replace the new one.

7-3-4. REPLACE THE DEFROST HEATER (FREEZER ONLY)

A. After lift the evaporator up, disconnect the connectors with harness defrost heater and disassemble the defrost fixture spring and split the hooks of the evap..

B. Replace the new defrost heater and fix it with heater fix spring. Connect the connectors.

***NOTE**

Why is always 220 voltage detected between connectors of the evaporator defrost heater in the main harness?

The SNUBBER (located Main PCB) holds two AC power lines simultaneously.

The SNUBBER prevents Main PCB malfunction from sparks occurred by other electrical component's ON/OFF. (SNUBBER =Spark killer)

Because of the SNUBBER, 220 voltage is always detected, but electrical current in this case is very little (small Amps.).So, this electrical current is not enough to operate the evaporator defrost heater.

How to measure the Amps. of the evaporator defrost heater

Disconnect the connectors of the evaporator defrost heater.
Then , prepare the additional Power Source(115V/60Hz) and the Amp. Meter.
Connect the connectors of the evaporator defrost heater to the additional power source and read amp. Value from the Amp. Meter.

。

7-3-5. REPLACE THE EVAPORATOR FAN MOTOR AND FAN BLADE

A. After lift the evaporator up, unscrew the screw which used in fixing motor fixture.

B. Disconnect the connectors of harness motor.

Then you can replace the evaporator fan motor and fan blade.

7-4. CONTROL BOX PART

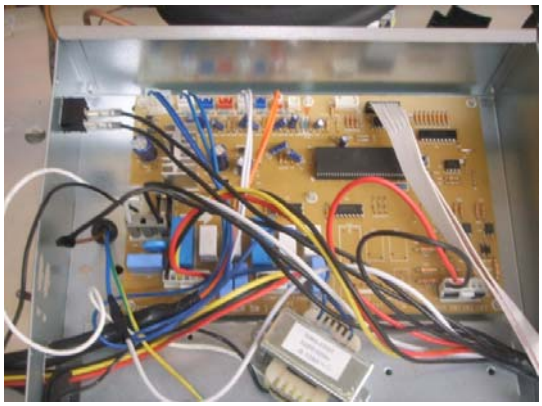
- Power relay
- Transformer
- Main PCB

A. Disassemble top grille (t) as described section 7-1 A B.

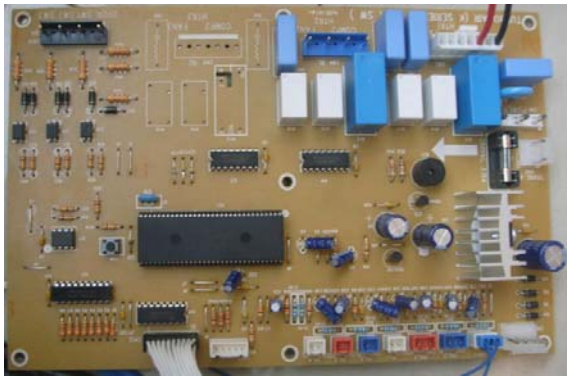
B. Pull out all connectors connected with control box.

C.Unscrewthescrewslocatedonfrontofevap-housing

E.Pull out the harness main.



F. Unscrew the screws used in fixing power relay and trans former
G. Disconnect the main PCB fixture.



Then you can replace the power relay, trans former and main pcb.

7-5. CONDENSER UNIT

- Compressor
- Condenser fan motor
- Dryer filter
- Pressure switch

The comp. Base is located on both side on the top of the cabinet by screw, and you can replace the Compressor ,Condenser coil Condenser fan motor, ETC. on it.

7-6. REPLACE THE CABINET HEATER AND MULLION HEATER

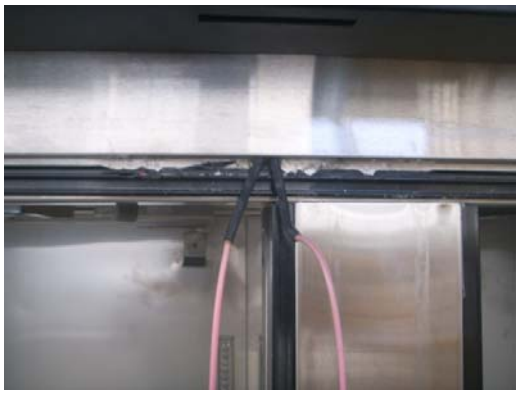
A. Disassemble the liner frame cover with the and edge of '—'type screwdriver.(left/right/top/bottom side)

°

B. Disconnect the cabinet heater and pull it out.

You can replace the cabinet heater with the new one.

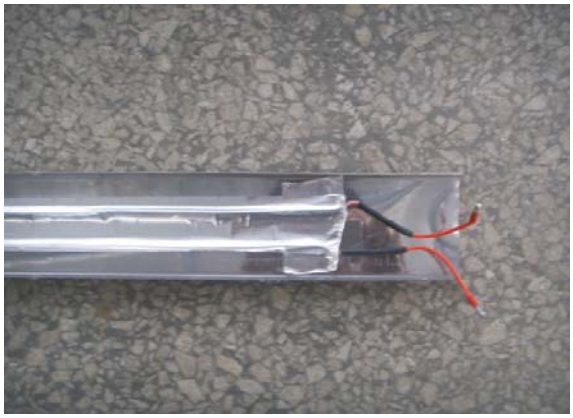
°



C. Assemble the liner frame cover.(left/right/top/bottom side)

D. Disassemble the mullion frame cover(v) with the and edge of '—'type screwdriver.

E. Unscrew the screw located on both side of the mullion.

F. Take apart the mullion out cover(v) from the mullion, then disconnect the harness mullion heater.

G. Change the old mullion heater(v) and install the new one with the gap between wires 1.2 inch.